## Patent claims

1. A compound of the formula I,

5

15

in which:

A1, A2, A3, A4, A5, A6, A7 and A8

independently of one another are chosen from nitrogen, CH and CR(5), at least one of these groups being nitrogen and at least 4 of these groups being 10 CH;

is C(O)OR(9),  $SO_2R(10)$ , COR(11), C(O)NR(12)R(13) or C(S)NR(12)R(13); R(1) wherein R(9), R(10), R(11) and R(12)

independently of one another are  $C_XH_{2X}$ -R(14);

where x is 0, 1, 2, 3 or 4, and x cannot be 0 if R(14) is OR(15) or SO<sub>2</sub>Me;

R(14) is alkyl having 1, 2, 3, 4, 5 or 6 atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms,  $CF_3$ ,  $C_2F_5$ ,  $C_3F_7$ , CH<sub>2</sub>F, CHF<sub>2</sub>, OR(15), SO<sub>2</sub>Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4,

5, 6, 7, 8 or 9 carbon atoms,

25

10

15

20

30

where the substituted phenyl, substituted naphthyl	,
substituted biphenylyl, substituted furyl, substituted	t
thienyl and the substituted N-containing	
heteroaromatic are each independently substituted	t
by 1, 2 or 3 substituents chosen from F, Cl, Br, I,	
$CF_3$ , $OCF_3$ , $NO_2$ , $CN$ , $COOMe$ , $CONH_2$ , $COMe$ ,	
NH <sub>2</sub> , OH, alkyl having 1, 2, 3 or 4 carbon atoms,	
alkoxy having 1, 2, 3 or 4 carbon atoms,	
dimethylamino, sulfamoyl, methylsulfonyl and	
methylsulfonylamino;	
is all all having 1 2 2 4 or 5 carbon atoms	

R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> substituted phenyl or unsubstituted phenyl, wherein the substituted phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl,

R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

methylsulfonyl and methylsulfonylamino; and

- R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;
- R(3) is  $C_yH_{2y}$ -R(16);
- where y is 0, 1, 2, 3 or 4, and y cannot be 0 if R(16) is OR(17) or SO<sub>2</sub>Me;
  - R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, 10 or 11 carbon atoms, CF<sub>3</sub>, C<sub>2</sub>F<sub>5</sub>, C<sub>3</sub>F<sub>7</sub>, CH<sub>2</sub>F, CHF<sub>2</sub>, OR(17), SO<sub>2</sub>Me, substituted or unsubstituted phenyl, substituted or unsubstituted

10

15

20

30

furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino; and

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4-pyridyl, or unsubstituted 2-, 3- or 4-pyridyl,

where the substituted phenyl and substituted 2-, 3- or 4-pyridyl are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

or

R(3) is CHR(18)R(19);

25 where R(18) is hydrogen or  $C_zH_{2z}$ -R(16), where R(16) is defined as indicated above;

z is 0, 1, 2 or 3;

R(19) is COOH, CONH<sub>2</sub>, CONR(20)R(21), COOR(22) or CH<sub>2</sub>OH;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms,  $C_VH_{2V}$ -CF<sub>3</sub>, substituted  $C_WH_{2W}$ - phenyl or unsubstituted  $C_WH_{2W}$ - phenyl,

where the phenyl ring of the substituted C<sub>W</sub>H<sub>2W</sub>-phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

10 R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms; and R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF<sub>3</sub>;

or

5

R(3) and R(4)

together are a chain of 4 or 5 methylene groups, of which one methylene group can be replaced by -O-, -S-, -NH-, -N(methyl)- or -N(benzyl)-;

R(5) is independently of one another chosen from F, CI, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl or methylsulfonylamino, where in the case that more than one of the radicals A1 to A8 have the meaning CR(5), the radicals R(5) are defined independently of one another.

R(30) and R(31)

independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;

or

25

20

R(30) and R(31)

together are oxygen or a chain of 2 methylene groups;

30 or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

The first short man and from the

2. The compound as claimed in claim 1, wherein: A1, A2, A3, A4, A5, A6, A7 and A8 independently of one another are chosen from nitrogen, CH and CR(5), at least one of these groups being nitrogen and at least 4 of these groups being CH; is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13) R(9), R(10), R(11) and R(12) independently of one another are  $C_XH_{2X}$ -R(14); where x is 0, 1, 2, 3 or 4; and x cannot be 0 if R(14) is OR(15); R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienvl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms. where substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms,

> is alkyl having 1, 2, 3, 4 or 5 carbon atoms, R(15) cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub> substituted phenyl or unsubstituted phenyl,

alkoxy having 1, 2, 3 or 4 carbon atoms,

dimethylamino, sulfamoyl, methylsulfonyl and

methylsulfonylamino;

wherein the substituted phenyl is substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino; R(13) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms

R(2) is hydrogen, alkyl having 1, 2, 3 or 4 carbon atoms or CF<sub>3</sub>;

or CF3;

10 R(3) is C<sub>y</sub>H<sub>2y</sub>-R(16);where y is 0, 1, 2, 3 or 4, andy cannot be 0 if R(16) is OR(17) or SO<sub>2</sub>Me;

R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8, 9, carbon atoms, CF<sub>3</sub>, OR(17), SO<sub>2</sub>Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(17) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4- pyridyl, or unsubstituted 2-, 3- or 4- pyridyl

20

15

25

20

25

## Attorney Docket No. 02481,1759

where the substituted phenyl or substituted 2-, 3- or
4- pyridyl are each independently substituted by 1, 2
or 3 substituents chosen from F, Cl, Br, I, CF <sub>3</sub> ,
OCF <sub>3</sub> , NO <sub>2</sub> , CN, COOMe, CONH <sub>2</sub> , COMe, NH <sub>2</sub> ,
OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy
having 1, 2, 3 or 4 carbon atoms, dimethylamino,
sulfamoyl, methylsulfonyl and methylsulfonylamino;

or

5

R(3) is CHR(18)R(19);

where R(18) is hydrogen or C<sub>Z</sub>H<sub>2Z</sub>-R(16), where R(16) is defined as indicated above;

z is 0, 1, 2 or 3;

R(19) is  $CONH_2$ , CONR(20)R(21), COOR(22) or  $CH_2OH$ ;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms,  $C_VH_{2V}$ -CF<sub>3</sub>, substituted  $C_WH_{2W}$ - phenyl, or substituted  $C_WH_{2W}$ - phenyl,

where the phenyl ring of the substituted C<sub>W</sub>H<sub>2W</sub>phenyl is substituted by 1, 2 or 3 substituents
chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN,
COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1,
2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4
carbon atoms, dimethylamino, sulfamoyl,
methylsulfonyl and methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms; and R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

- R(4) is hydrogen, alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms or CF<sub>3</sub>;
- R(5) is independently of one another chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN,
  COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms,

alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or alkyl having 1, 2 or 3 carbon atoms;

or

5

R(30) and R(31)

are a chain of 2 methylene groups;

- 10 or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.
  - 3. The compound as claimed in claim 2, wherein
- A1, A2, A3, A4, A5, A6, A7 and A8 independently of one another are chosen from 15 nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of
- 20 4. The compound as claimed in claims 1, wherein:
  - A1, A2, A3, A4, A5, A6, A7 and A8

any such compounds in any ratio..

independently of one another are chosen from nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH;

25 R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13);

R(9), R(10), R(11) and R(12)

independently of one another are  $C_XH_{2X}$ -R(14);

where x is 0, 1, 2, 3 or 4,

x cannot be 0 if R(14) is OR(15);

30 R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, OR(15), substituted or

## Attorney Docket No. 02481.1759

unsubstituted phenyl, substituted or unsubstituted naphthyl,

		substituted or unsubstituted biphenylyl, substituted or				
		unsubstituted furyl, substituted or unsubstituted thienyl or a				
		substituted or unsubstituted N-containing heteroaromatic				
	5	having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms;				
		where the substituted phenyl, substituted naphthyl,				
		substituted biphenylyl, substituted furyl, substituted				
		thienyl and the substituted N-containing				
		heteroaromatic are each independenly substituted				
	10	by 1, 2 or 3 substituents chosen from F, Cl, Br, I,				
		$CF_3$ , $OCF_3$ , $NO_2$ , $CN$ , $COOMe$ , $CONH_2$ , $COMe$ ,				
Man State St		NH <sub>2</sub> , OH, alkyl having 1, 2, 3 or 4 carbon atoms,				
lui Fiji		alkoxy having 1, 2, 3 or 4 carbon atoms,				
		dimethylamino, sulfamoyl, methylsulfonyl and				
	15	methylsulfonylamino;				
e erii		R(15) is alkyl having 1, 2, 3, 4 or 5 carbon atoms,				
		cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF <sub>3</sub>				
The next had been W		substituted phenyl or unsubstituted phenyl,				
ek		wherein the substituted phenyl is substituted by 1,				
	20	2 or 3 substituents chosen from F, Cl, Br, I, CF <sub>3</sub> ,				
		$NO_2$ , $CN$ , $COOMe$ , $CONH_2$ , $COMe$ , $NH_2$ , $OH$ ,				
		alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy				
		having 1, 2, 3 or 4 carbon atoms, dimethylamino,				
		sulfamoyl, methylsulfonyl and methylsulfonylamino;				
	25	R(13) is hydrogen				
	R(					
	R(					
		R(18) is hydrogen or C <sub>Z</sub> H <sub>2Z</sub> -R(16),				
		where R(16) is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having				

30

3, 4, 5, 6, 7, 8, 9, carbon atoms, CF<sub>3</sub>, OR(17), SO<sub>2</sub>Me, substituted

or unsubstituted phenyl, substituted or unsubstituted naphthyl,

10

15

20

25

substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

z is 0, 1, 2 or 3;

R(19) is  $CONH_2$ , CONR(20)R(21), COOR(22) or  $CH_2OH$ ;

R(20) is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms,  $C_V H_{2V}\text{-}CF_{3,} \text{ substituted } C_W H_{2W}\text{-} \text{ phenyl}, \text{ or unsubstituted }$   $C_W H_{2W}\text{-} \text{ phenyl}$ 

where the phenyl ring of the substituted C<sub>W</sub>H<sub>2W</sub>phenyl is substituted by 1, 2 or 3 substituents
chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe,
CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4
carbon atoms, alkoxy having 1, 2, 3 or 4 carbon
atoms, dimethylamino, sulfamoyl, methylsulfonyl and
methylsulfonylamino;

v is 0, 1, 2 or 3;

w is 0, 1, 2 or 3;

R(21) is hydrogen or alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(22) is alkyl having 1, 2, 3, 4 or 5 carbon atoms;

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;

R(5) is independently of one another chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN,

COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl,

30

20

methylsulfonyl or methylsulfonylamino;

R(30) and R(31)

independently of one another are hydrogen or methyl;

- 5 or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.
  - 5. The compound as claimed in claim 1, wherein:
  - A1, A2, A3, A4, A5, A6, A7 and A8
- independently of one another are chosen from nitrogen, CH and CR(5), where at least one and at most two of these groups are nitrogen and at least 4 of these groups are CH;
  - R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13); where R(9), R(10), R(11) and R(12) independently of one another are  $C_xH_{2x}$ -R(14);

x is 0, 1, 2, 3 or 4;

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3, 4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted biphenylyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

where the substituted phenyl, substituted naphthyl, substituted biphenylyl, substituted furyl, substituted thienyl and the substituted N-containing heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms,

25

## Attorney Docket No. 02481.1759

dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(13) is hydrogen;

				41 1
R(2)	IS	hydrogen	or	methyl;

is  $C_V H2_V - R(16)$ ; 5 R(3)

where y is 0, 1, 2, 3 or 4; and

y cannot be 0 if R(16) is OR(17);

is alkyl having 1, 2, 3, 4, 5 or 6 carbon atoms, cycloalkyl having 3, 4, R(16) 5, 6, 7, 8, 9, carbon atoms, CF<sub>3</sub>, OR(17), SO<sub>2</sub>Me, substituted or unsubstituted phenyl, substituted or unsubstituted naphthyl, substituted or unsubstituted furyl, substituted or unsubstituted thienyl or a substituted or unsubstituted N-containing heteroaromatic having 1, 2, 3, 4, 5, 6, 7, 8 or 9 carbon atoms,

> where the substituted phenyl, substituted naphthyl, substituted furyl, substituted thienyl and the substituted Ncontaining heteroaromatic are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, OCF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

is hydrogen, alkyl having 1, 2, 3, 4 or 5 carbon atoms, R(17) cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, substituted phenyl, unsubstituted phenyl, substituted 2-, 3- or 4- pyridyl, or unsubstituted 2-, 3- or 4- pyridyl

> where the substituted phenyl or substituted 2-, 3- or 4- pyridyl are each independently substituted by 1, 2 or 3 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH2, COMe, NH2, OH, alkyl

> having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2,

10

The state state was been state and the state of the state

î,

Ē.sb

He had mad test may

15

20

25

3 or 4 carbon atoms, dimethylamino, sulfamoyl, methylsulfonyl and methylsulfonylamino;

R(4) is hydrogen or alkyl having 1 or 2 carbon atoms;

methylsulfonyl or methylsulfonylamino;

R(5) is independently of one another chosen from F, Cl, Br, I, CF<sub>3</sub>, NO<sub>2</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2, 3 or 4 carbon atoms, alkoxy having 1, 2, 3 or 4 carbon atoms, dimethylamino, sulfamoyl,

R(30) and R(31)

independently of one another are hydrogen or methyl;

- 10 or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.
  - 6. The compound as claimed in claim 5, wherein:

A4 is nitrogen and A1, A2, A3, A5, A6, A7 and A8 independently of one another are chosen from CH and CR(5), where at least 5 of these groups are CH; or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

- 7. The compound as claimed in claim 6, wherein:
- 20 R(1) is C(O)OR(9), SO<sub>2</sub>R(10), COR(11) or C(O)NR(12)R(13); where R(9), R(10), R(11) and R(12) independently of one another are  $C_XH_{2X}$ -R(14);

where x is 0, 1, 2 or 3;

R(14) is alkyl having 1, 2, 3 or 4 carbon atoms, cycloalkyl having 3,

4, 5, 6, 7, 8 or 9 carbon atoms, CF<sub>3</sub>, substituted phenyl,

unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, OH, alkyl having 1, 2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(13) is hydrogen;

30

```
R(2) is hydrogen;
```

R(3) is  $C_yH_{2y}$ -R(16);

y is 0, 1 or 2;

R(16) is alkyl having 1, 2, 3 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, CF<sub>3</sub>, substituted phenyl, unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, CF<sub>3</sub>, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2

10 carbon atoms;

- R(4) is hydrogen;
- R(5) is independently of one another chosen from F, Cl, CF<sub>3</sub>, CN, COOMe, CONH<sub>2</sub>, COMe, NH<sub>2</sub>, OH, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;
- 15 R(30) and R(31)

independently of one another are hydrogen or methyl; or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.

- 20 8. The compound as claimed in claim 7, wherein:
  - R(1) is C(0)OR(9) or COR(11);

R(9) and R(11)

independently of one another are  $C_XH_{2X}$ -R(14);

where x is 0, 1, 2 or 3;

25 R(14) is cycloalkyl having 5 or 6 carbon atoms substituted phenyl, or unsubstituted phenyl

where the substituted phenyl is substituted by 1 or 2 substituents chosen from F, Cl, Br, I, CF<sub>3</sub>, OCF<sub>3</sub>, OH, alkyl having 1, 2 or 3 carbon atoms or alkoxy having 1 or 2 carbon atoms;

R(2) is hydrogen;

- R(3) is  $C_VH_{2V}$ -R(16);
  - y is 0, 1 or 2;

R(16) is alkyl having 1, 2 or 3 carbon atoms, cycloalkyl having 3, 4, 5 or 6 carbon atoms, substituted phenyl, unsubstituted phenyl, substituted pyridyl, or unsubstituted pyridyl,

where the substituted phenyl and substituted pyridyl are each independently substituted by 1 or 2 substituents chosen from F, Cl, CF<sub>3</sub>, OCF<sub>3</sub>, alkyl having 1, 2 or 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;

- 10 R(4) is hydrogen;
  - R(5) is independently of one another chosen from F, CI, alkyl having 1, 2, 3 carbon atoms and alkoxy having 1 or 2 carbon atoms;
  - R(30) and R(31)

are hydrogen;

- 15 or a pharmaceutically tolerable salt thereof, in an stereoisomeric form, or a mixture of any such compounds in any ratio.
  - 9. A pharmaceutical preparation comprising an efficacious amount of at least one of the compounds of claim 1 and at least one additional component chosen from
- 20 pharmaceutically acceptable vehicles, pharmaceutically acceptable additives and other pharmacological active compounds.
- 10. A method for treating or preventing a K<sup>+</sup> channel-mediated diseases comprising administering to a patient an effective amount of at least one compound chosen from25 the compounds as claimed in claim 1.
  - 11. A method for treating or preventing cardiac arrhythmias which can be eliminated by action potential prolongation comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.

- 12. A method for treating or preventing reentry arrhythmias comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.
- 5 13. A method for treating or preventing supraventricular arrhythmias comprising administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.
- 14. A method for treating or preventing atrial fibrillation or atrial flutters comprising10 administering to a patient an effective amount of at least one compound chosen from the compounds as claimed in claim 1.
- 15. A method for terminating atrial fibrillation or atrial flutters comprising administering to a patient an effective amount of at least one compound chosen from15 the compounds as claimed in claim 1.
- 16. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one IKr channel blocker, and at least one additional ingredient chosen from pharmaceutically acceptable vehicles and pharmaceutically acceptable additives.
- 17. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one IKs channel blocker, and at least one additional ingredient chosen from pharmaceutically acceptable vehicles and pharmaceutically acceptable additives.
- 18. A pharmaceutical preparation, comprising an efficacious amount of at least one compound chosen from the compounds as claimed in claim 1, at least one beta blocker, and at least one additional ingredient chosen from pharmaceutically30 acceptable vehicles and pharmaceutically acceptable additives.